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LETTER DISCUSSING RESOURCE RECOVERY AND CONSERVATION ACT FACILITY
INVESTIGATION REPORT ZONE B DATED 21 NOVEMBER 1996 CNC CHARLESTON SC
1/2/1997
SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL



Commissioner: Douglas E. Bryant

Board: John H. Burrise, Chairman
William M. Hull, Jr., MD, Vice Chairman
Roger Leaks, Jr., Secretary

Promoting Health, Protecting the Environment

Richard E. Jabbour, DDS
Cyndi C. Mosteller
Brian K. Smith
Rodney L. Grandy

2902-12240

CERTIFIED MAIL

January 2, 1997

LCDR Paul Rose
Officer in Charge, Caretaker Site Office
Naval Facilities Engineering Command, Southern Division
Building NH-45
Charleston Naval Base
Charleston, SC 29408-2020

Re: Zone B RCRA Facility Investigation (RFI) Report
Dated November 21, 1996.
Charleston Naval Base
SC0 170 022 560

Dear LCDR Rose:

The South Carolina Department of Health and Environmental Control (Department) and the U.S. Environmental Protection Agency (EPA) have reviewed the above referenced Zone B RFI Report dated November 21, 1996 in accordance with applicable State and Federal Regulations, and the Charleston Naval Shipyard's Hazardous Waste Permit, effective June 5, 1990. The review indicated that the Charleston Naval Base has adequately addressed the Department's comments submitted on October 18, 1996. The USEPA recommended approval of the subject document on letter dated November 27, 1996.

The Department believes that the Zone B RFI Report is in compliance with permit condition IV.C.6. and agrees with the recommendation to proceed with the Corrective Measures Study (CMS) phase of the RCRA Corrective Action process. It should be noted that according to condition IV.E.2. the Permit shall be modified pursuant to R.61-79.270.41.

Based on the above and according to condition IV.G.1. of the RCRA Permit, the Department hereby approves the Zone B RFI Report provided that the attached memo (Bergstrand to Tapia) is addressed and clarified during the Corrective measures Study (CMS).

OPTIONAL FORM 99 (7-90)

FAX TRANSMITTAL

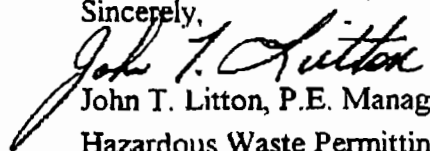
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To Todd	From Tony
Dept./Agency	Phone #
Fax # 853-6107	Fax #



Should you have any questions regarding this issue, please contact Johnny Tapia at (803) 896-4179 or Paul Bergstrand at (803) 896-4016.

Sincerely,



John T. Litton, P.E. Manager

Hazardous Waste Permitting Section

Bureau of Solid and Hazardous Waste Management

attachments

cc: Paul Bergstrand (Hydrogeology)
Rich Richter (Trident EQC)
Tony Hunt (SOUTHNAVFACENGNCOM)
Doyle Brittain, EPA Region IV

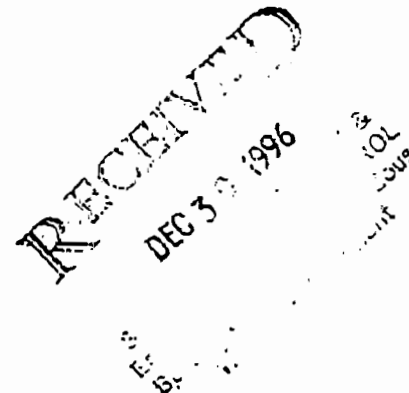
MEMORANDUM

TO: Johnny Tapia, Environmental Engineer Associate
Hazardous Waste Permitting Section
Bureau of Solid and Hazardous Waste Management

FROM: Paul M. Bergstrand, Hydrogeologist *PMB*
Division of Hydrogeology
Bureau of Solid and Hazardous Waste Management

DATE: 23 December 1996

RE: Comments for Draft Final RFI Report
Revisions 1
Charleston County
SC0 170 022 560



The RFI Report is approvable providing the following issues and concerns are addressed during the CMS.

1. There are questions concerning the method for the determination of background. The question is asked because 95% of sample values fall below the UTL even though the sample levels are above residential RBC values. This method of determining background may be appropriate for a pristine site but it's application at this facility is questionable because of the long history of activity at the site. This question must be addressed because of the carryover into the other forthcoming RFI Reports.
2. The first round soil samples at AOC 507 revealed the presence of low levels of benzene, trichloroethane and several other VOCs. The presence of these VOCs has been attributed to AOC 507, but because the levels of VOCs discovered are low, they have been eliminated as COPCs after the first round of sampling. The VOCs discovered may have been dismissed prematurely for the following reasons:
 - A) Per this Report, AOC 507 is Building 1010, a former oil storehouse, which was demolished more than 80 years ago. The implication that benzene, a rapidly degraded volatile organic chemical, is remaining in the soil after 80 years is highly

suspicious and should be investigated further.

- B) Because benzene, trichloroethane and other VOCs discovered at AOC 507 were eliminated as COPCs, all subsequent soil samples at AOC 507 were not analyzed for VOCs. This means only 5 of 13 soil sample locations from AOC 507 were analyzed for VOCs.
 - C) The risk maps provided in the Draft Final RFI Report may not provide the complete picture of the conditions at the AOC because the COPC list determined during the first phase of the investigation eliminated VOCs from the risk equation. In short, the question remaining is, has the full extent of the contamination been defined? The extent of the benzene, trichloroethane and various other VOCs must be identified during the CMS.
3. The Department's Assessment and Remediation Criteria, dated 31 July 1995, has been provided to the Navy on at least two previous occasions. The Draft Final RFI Report has referred to an Ohio EPA document and the Texas Natural Resource Conservation Commission (Not Referenced) but has not included any reference to the South Carolina Criteria. A third copy of the guidance has been attached to this correspondence. The Navy should incorporate the Criteria in the upcoming RFI Reports or provide an explanation for the exclusion.

BUREAU OF SOLID AND HAZARDOUS WASTE MANAGEMENT ASSESSMENT AND REMEDIATION CRITERIA

Introduction

In overseeing the assessment and remediation of contaminated sites, the Department is often posed with requests to assess and remediate the contamination to some concentration higher than the naturally occurring (i.e. background) concentrations of the constituents of concern. These higher concentration numbers are generally based on a risk assessment process which determines the amount of contamination that may be left in place with no, or negligible, threat to human health. To aid in determining acceptable cleanup levels, the adoption of the EPA's Risk Based Concentration (RBC) tables for direct ingestion of soils is recommended. However, when using the RBC standards as assessment or cleanup goals, it should be noted that these standards were developed under a specific exposure scenario which should be compared with the site specific situation in order to determine if the RBC standards will be protective.

The numbers from the RBC tables are to be adopted for the direct ingestion pathway only and may not apply if transfer to air or groundwater is a concern. It will always be the initial assumption that groundwater impact is a possibility. The burden of proof falls on the party(s) responsible for cleanup to show that groundwater impact is not a concern. An approach similar to that outlined in EPA's Soil Screening Guidance (EPA/540/R-94/101) would be appropriate in order to determine soil cleanup levels for protection of groundwater. The EPA's Soils Screening-Level (SSL) framework allows varying degrees of site specific information to be used in order to set protective soil cleanup levels. The amount of site specific information needed to determine the SSL for a given site can vary from very little to as detailed as the responsible party would like to provide. The SSL allows the responsible party to decide whether it is most cost effective to expend more resources to perform a very detailed analysis of site circumstances in order to set higher cleanup standards that are protective, or to expend fewer resources on collecting site specific information and adopt the more conservative cleanup levels. EPA's SSL framework includes language to insure consistency with the National Contingency Plan (NCP) and ARAR compliance. The RBC's and SSL's will be used within the context of current CERCLA, RCRA and other applicable statutory and regulatory requirements along with associated guidance documents.

The intent of this statement is not to change current practice in how regulatory requirements are carried out, but to simplify and expedite the process. For example, in the case of CERCLA, it will be possible to quickly set pre-remedial goals (PRG's) for a site that will in many cases be protective cleanup levels. However, these PRG's, which for soils could be either RBC or SSL values, would still be put through the same system of checks outlined in the Risk Assessment Guidance for Superfund (RAGS) in order to insure that the levels are protective of human health and the environment. In a case where multiple contaminants or multiple exposure pathways cause RBC's not to be protective, cleanup levels would be adjusted to account for these site specific circumstances.

Ecological Assessment

The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), requires that the environment be protected from the release or potential release of contaminants from hazardous waste sites. The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) calls for identification and mitigation of the environmental impacts of these sites and for the selection of remedial actions to protect environmental organisms and ecosystem. In addition, numerous federal and state laws and regulations concerning environmental protection are potentially Applicable or Relevant and Appropriate Requirements (ARARs). Compliance with these laws and regulations requires an evaluation of site-related ecological effects and the measures necessary to mitigate these effects.

As part of a site specific assessment, potential ecological impacts should be addressed. An ecological assessment is "a qualitative and/or quantitative appraisal of the actual or potential effects of a solid and/or hazardous waste site on plants and animals other than people and domesticated species (EPA, RAGS, Vol. 1). The ecological assessment should include identifying critical ecological resources to be protected from reduction, degradation, or loss in quantity, quality and use, including critical fish and wildlife habitats and the presence of endangered species. Also the ecological assessment should include an evaluation of whether the impacts from the site on ambient surface water concentrations of toxic compounds are likely to cause exceedance of state water quality standards. To assist in the performance of an ecological assessment, a work sheet has been provided as Appendix A.

Background

When development of background conditions is necessary, the following criteria should be considered in addition to program specific regulation and guidance:

Soil - The need to determine background levels for metals and naturally occurring organics will be a site specific determination. If RBC's are published for the constituent of concern or SSL's have been established and the responsible party is willing to cleanup to those levels, the determination of background is not necessary. If site specific cleanup levels are developed, small facilities may consider a unit specific background determination whereas larger sites may want to establish sitewide background which considers different soil types and any other significant variables.

Groundwater - If the responsible party is willing to cleanup to the MCL, RBC water standard or pql, as appropriate, a determination of background may not be required. If a determination of background is needed and a statistical approach is chosen, the minimum number of samples taken would depend on the statistical method chosen which must be approved by the Department.

Radiological Standards

In general, the EPA and the NRC have an agreed upon standard of fifteen (15) mrem/yr total effective dose equivalent. This standard is currently being developed into regulation on the Federal level and will eventually be incorporated into the State Regulation for Radiological Materials (R. 61-63). Sites with radioactive contaminants will be addressed in accordance with the 15 mrem/yr standard and with applicable regulations and/or DOE order.

Institutional Controls

Institutional controls must be used in situations involving remediation to industrial risk based concentrations and where ACL's or Groundwater Mixing Zones are applied, and in cases where technical impracticability is determined. The Bureau will utilize consent agreements/orders and permits to help ensure activities at the site are consistent with the assumed exposure scenarios. The documents will require that before transferring the property the present owner must notify in writing the new owner of the requirements of the permit or order. The Bureau will also require the property owner to notify the local zoning authority that the contamination remaining on the property is protective for restricted use only. A facility must also demonstrate the ability to maintain effective institutional controls to eliminate the possibility of any actual exposure pathway being allowed or created (e.g., allowing a drinking water or irrigation well to be installed, or creating a new pathway by utility construction) during the period in which the standard is being exceeded and remediation is in effect.

In addition, the property owner must place a notice on the deed to the property that will notify any potential purchaser of the property that contamination remains on the property. Security measures as appropriate, such as fencing, signs, physical barriers, etc. will also be required to be maintained to prevent unknowing entry and to ensure that unrestricted use of the portion of the site that does not meet the residential risk based standard does not occur. Other institutional factors to be considered when determining whether industrial cleanup goals, ACL's or Mixing zones, and determinations of technical impracticability can be approved include local ordinances or zoning to prevent well installations and replacement of a contaminated or threatened water supply.

8. Are there any unique or unusual terrestrial or aquatic ecosystem, such as a Carolina Bay, located adjacent to the site? Yes ____ No ____ . If yes, list the ecosystem:
9. Has the groundwater below the site been contaminated due to site operations? Yes ____ No ____ . If yes, indicate how groundwater was contaminated and if known, list the contaminant(s):
10. Prior to its present use, was the site used for any type of waste disposal? Yes ____ No ____ . If yes, list prior use associated with the site:

A more expanded ecological assessment may be required if a yes was the answer given for any one of questions 5 through 10.